

ROCKS and MINERALS

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MONTHLY



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PETER ZODAC

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1943

Contents for February, 1943

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ROCKS and MINERALS

PEEKSKILL, N. Y., U. S. A.

The official Journal of the Rocks and Minerals Association

Chips from the Quarry

SOME PROBLEMS TO BE SOLVED!

One of the many problems of mineralogy which we may never solve are the poor reasons often given by collectors for discontinuing their subscriptions to ROCKS AND MINERALS. Here are a few typical examples:

"Please discontinue my subscription," writes one, "because I have moved from A-city to B-city. As you know B-city is not known for minerals so your magazine will be of no value to me."

Another, from an eastern state, writes, "I am discontinuing my subscription because many minerals which interest me are located in the western half of the U. S. and are, therefore, inaccessible to me for visiting and collecting."

A third writes, "Due to gas and tire rationing it is now impossible to make long trips to localities. I will have to discontinue my subscription as ROCKS AND MINERALS is of no use to me now. After the war is over I may again subscribe."

Quite a number have written as follows, "Please discontinue my subscription to ROCKS AND MINERALS because I have joined a local club which needs all my support."

Whether a collector subscribes for one or two years or does not subscribe at all is a matter which concerns him alone. But it seems strange to us why it is that these very same collectors who give but little support to a mineral magazine are often the ones who do the most complaining against mineralogy. And stranger still, why is it that some collectors who possess large collections, make frequent trips to localities, buy liberally from dealers, and yet, apparently, never subscribe for a mineral magazine?

There are many good reasons why a collector is forced to give up his subscription—joining the armed forces of

our country is one. To our amazement, however, not only are many collectors who are in the service not giving up their subscriptions but a number have extended them for two, three, or more years. In some cases the magazine is sent regularly to these collectors regardless where they may be stationed; in others it is sent to their homes; a few



collectors have requested that their copies be held for them at the offices of ROCKS AND MINERALS

Why does not every active mineral collector support a mineral magazine? We wish we knew the answer. If such a collector happens to read this, we would be most grateful were he to write us his reasons.

Peter Zodac

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The Official Journal
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Whole No. 139

THE ROYAL GORGE AND CENTRAL COLORADO

By J. E. ANDRESS

A vacation spent in Central and near Eastern Colorado, "The Closest State to Heaven," can be made most pleasant, healthful and educational.

The great range of Rocky Mountains with many snow-capped peaks are both enchanting and inspiring. We of the plain states have an annual craving for altitudes.

Along Colorado's many splendid mountain highways and byways there is not only much of scenic thrills, but there will be found a paradise for the "rock hound" and for the mineralogist, the geologist, and the scientist. Here there is vastness of granite and rocks of all descriptions as well as various important and strategic minerals.

Western Colorado or beyond the Continental Divide doubtless holds equal importance in its wealth of rocks and minerals, but it deserves a separate visit, for the entire State cannot be well covered in one vacation, even of a month or two months' time.

Beginning at Denver, the vacationist will find Colorado Springs and Manitou about 75 miles south at the foot of Pike's Peak (14,115 ft.) There is a 20-mile "shelf" highway but well maintained with easy yet thrilling hairpin turns all the way to the shelter houses at the top. The "Garden of the Gods" is right at Manitou Springs, and many other interesting places in the vicinity, including the "Cave of the Winds" in which one sees curtains of onyx, stalagmites, stalactites, aragonites and drip stones of strange beauty. There is also a scenic drive over the "Gold Camp" shelf highway to the

villages of Cripple Creek and Victor, famous for their gold mines. Returning via Florissant one may visit the petrified redwood forests. These places afforded us small specimens of gold ore and petrified wood.

About 40 miles southwest of Colorado Springs is pleasant Canon City on the Arkansas River at the beginning of the world-renowned Royal Gorge, which when once visited leaves impressions never to be forgotten.

The Royal Gorge area is noted for its non-metallic minerals, some of which are commercialized by operating companies. These non-metallic include cement rocks, feldspar, vermiculite, clay for fire bricks, coal, silica, dolomite, marble, travertine and oil wells.

Mr. F. C. Kessler of Canon City has written a very informative book on "The Royal Gorge of the Arkansas River in Colorado." He gives the history and the geology thereof together with maps and illustrations. Also he lists the minerals and fossils of the Canon City embayment. The little fifty-cent book (as advertised in the classified columns herein) is well worth reading before one visits the Royal Gorge. I will not detract from Mr. Kessler's illuminations.

Near Canon City will be found Grape Creek with its garnet deposits. Garnets are also found in Longfellows Gulch and elsewhere near Salida.

The Royal Gorge is so narrow through the deepest part that there is no room for a highway, although the D & R G R R long since chiseled out a roadbed for their main lines and at the narrowest place

suspended a bridge from girders between the rocky walls. This railroad has been in operation for more than sixty years and still carries tremendous double-header freight, passenger and military trains. To ride on the train in an open railroad car for some 12 to 15 miles through the deepest cut of the Royal Gorge with rock walls over 1,000 feet high on either side is a thrilling and exhilarating experience indeed. It is ideal for taking colored movie pictures, and especially so if one happens to see or go through a rainstorm and can catch a beautiful rainbow spectrum.

The U. S. Highway #50 by-passes this part of the wonderful rock gorge, but some eight miles west of Canon City is a gravel road on left leading to the Highest Bridge in the World located some 1,053 feet above the turbulent waters of the Arkansas River and the D & R G tracks. It is a suspension bridge, requiring a toll fee for both pedestrians and autos. Length of structure, 1,260 feet. Main span between the 150 ft. high towers, 880 feet. Width of thoroughfare, 18 ft. A bronze tablet on the bridge reads: "Erected in the interests of and dedicated to those whose heart-beats respond to the grandeur of nature." An inclined cable carway some 1,200 ft. long runs to the bottom of the gorge, and is said to be the world's steepest railroad.

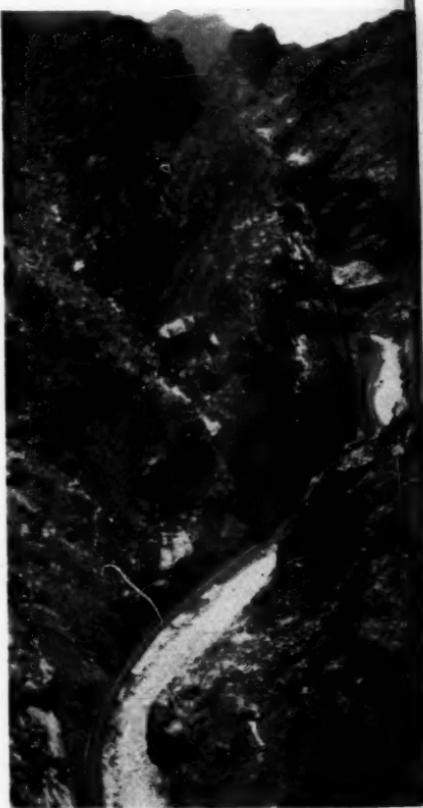
It is an awesome thought to try to comprehend the space of time that it has taken the Arkansas River (2½ million years) to cut its channel through the rocks, if unaided by glaciers, erosions or upheaval fissures.

Returning to Highway U. S. 50 and proceeding westward, one soon reaches the floor of the canyon beyond the Gorge and then the winding road follows up the river through the Salida Canyon of the Rippling Arkansas, as does the railroad through precipitous cuts and colorful rocks (a blissful territory for the "rockologist") on out into the valley and the enterprising city of Salida, "The Heart of the Rockies." Here the Chamber of Commerce has a long artificial

pond impounding large, live rainbow trout.

The Arkansas River is one of Colorado's finest fishing streams where some of its largest trout have been hooked. Here, too, are many smaller fishing streams and high lakes—a fisherman's paradise. These waters are so cold that the Salida C. of C. say some fishermen claim to have caught fur-covered trout. Believe it or not!

At Salida trains of lime rock come in on narrow gage tracks. To facilitate sidings and transfer, the railroad yards have three rails with suitable frogs and



Looking down 1,053 ft. into the Royal Gorge from the suspension bridge. Observe D & R G R R and the rippling Arkansas River.

switches so as to accommodate either narrow or standard gage cars. Below the City, the cars are run onto a dumper and tipped over by power to transfer ore to standard gondolas, without hand labor, and done in a jiffy.

Mt. Antero of the Sawatch Range is near and may be scaled by the hardy climber to the 10,000 ft. elevation where various gems may be secured, including aquamarines, emeralds, beryl and other crystals. Mt. Shavano, "The Angel Mountain," is also nearby where in June each year the form of a snow angel may be seen in one of the high valleys, known as "The Angel of Shavano."

A few miles north of the city and not far from the railroad are three leading fluorspar mines being actively worked. Other fluorite deposits and claims were visited nearby, one in particular owned by Mr. T. J. Doyle of Salida, and high grade specimens secured. These fluorspar mines are all in Chaffee County.

Fluorspar comes in veins of approximately 20 feet wide and seem to widen at more depth. It is used for fluxing in the making of steel in open hearth furnaces to take the phosphorous out so it will not leave a cancer; also used for making hydrofluoric acid; used too for artificial cryolite and for chemicals and pottery.

Fluorspar ore is in demand for fluorescent displays under "black light"—ultra-violet rays. When activated by these lamps, the mineral emits (not reflects) colors of a beautiful variety of blues, according to the purity of the fluorspar. I secured many banded, clear and mixed specimens for my 5 ft. by 5 ft. shelf fluorescent display, which, together with many other fluorescent minerals, all of spectacular beauty in a variety of colors, attract and fascinate our friends and ourselves. Fluorescence is the emission of colored, cold light rays by a substance in the mineral or material during the time of the exposure to ultra-violet rays—the most remarkable phenomena in the mineral kingdom.

Feldspar is found in the Turret District, in Chaffee County. The dikes run from two to fifty feet in width. There

is also some feldspar on Marshall Pass, an altitude of 12,000 ft., but accessible to narrow gauge railroad. Feldspar is used for enamel work, for glass and pottery. Some large crystals of beryl are found embedded in feldspar. Other associated minerals are quartz and mica. We chiseled out some large hexagonal beryl crystals from the Doyle quarry.

There are large deposits of calcite in blanket form in the Turret District, in Chaffee County, and a very good showing of graphite.

Near one of the fluorspar mines north of Salida on the east side of Highway No. 285 and near the top of the mountain range (accessible by auto), Mr. T. J. Doyle has a hematite quarry where we secured some exceptionally fine specimens.

Arterial highways run in the four cardinal directions out of Salida, "Love-ly Gateway to the Passes," to all parts of Colorado.

The U. S. Highway north out of Salida leads through Buena Vista to Leadville 60 miles, an old city of 5,000 population and at 10,188 ft. elevation, still a very active mining center. Since 1878, more than \$600,000,000 in gold, silver, lead, zinc, copper and manganese have been mined. A few miles farther north is the comparatively new mining district of Climax, where 85% of the world's supply of molybdenum is produced, at an altitude of over 12,000 feet. Fifteen miles south of Leadville, Route 82 leads west over Independence Pass (12,095 ft.) through Aspen (a fishing center) to Glenwood Springs.

Southward from Salida, U. S. 285 leads over Poncha Pass (9,000 ft.) to Saguache (pronounced Sawatch) and Alamosa, a live city in the San Luis Valley, and on to the New Mexico border.

To the west from Salida the magnificent U. S. Highway 50 runs over New Agate Pass but usually referred to as Monarch Pass (11,312 ft.) to Gunnison, (Old Monarch Pass—the grandest of them all is open all summer), the Gunnison river (a famous trout stream) and on to Montrose, near the Black Canyon and then up to Grand Junction.

Two large trout farms privately operated are located near Salida. (Frantz-hurst at the outskirts of the City is the world's largest). We enjoyed seeing the millions of trout in all sizes.

Charming sunsets may be viewed from a nearby spiral drive circling three times to the top of cone-shaped Tenderfoot Mountain. Much more could be said of this whole interesting territory.

Salida, having a metropolitan population of 6,000 and at an elevation of 7,050 ft., is also "The Heart of the Hunter's Paradise" for big game, duck, rabbit and other hunting. Hunters from far and wide visit that territory yearly to bag their deer, elk and bear.

Returning to Denver via Golden, one should visit the Museum of the Colorado School of Mines, where a wide variety of minerals may be found classified in large display cases. Denver, too, has its State Museum of Natural History displaying a complete collection of meteorites and many minerals.

Estes Park (adjoining Rocky Mountain National Park) with all its attrac-

tions and marvelous views of Long's Peak and of the great mountain range, is about 80 miles northwest of Denver. En route via Lyons on Highway 66, or via Loveland and U. S. 34 through thrilling Big Thompson Canyon, will be found much of interest to the "rockologist."

There is a splendid Trail Ridge Highway from Estes Park over the Continental Divide (12,000 ft.) and through Milner Pass down via Grand Lake and Granby, thence over Berthoud Pass to Idaho Falls. Here gold was discovered in 1859 and a few mines are still operating under government restrictions. From here interesting side drives may be taken to Georgetown, Blackhawk, Central City and to the ghost town of Apex.

Some streams contain minute crystals, such as ruby, garnet, magnetite (black sand), etc.—a delight to the microscopist. The various canyon walls display geologic rocks in great profusion and color. Here the mineralogist will also find at abandoned mines and dumps specimens of chalcopyrite, bornite, actinolite, galena (cubical twinning crys-



August vacationists in front of a snowbank at 10,000 ft. elevation on the way up Pike's Peak. Notice men holding snowballs.

tals), and other minerals. At any of the recently active mines, nice specimens of gold and silver ore are available. Pyrite is very prevalent in all these ores. Placer mining will be observed in the North Branch of Clear Creek on the inviting 10-mile drive from Idaho Springs up this winding canyon through several tun-

nels to Blackhawk. Then drive a mile farther to historic Central City, and on up over the 9,000 foot mountain, passing the "Richest square mile in the world" and down over a narrow, thrilling shelf and switch-back road to Idaho Springs, which city is 34 miles west of Denver.

PHOSPHORESCENT CALCITE CRYSTALS

By C. F. DIEGNAN

In the ridge of igneous rock that extends north from Somerville, N. J., to the New York state line, are many trap rock quarries. The rock is both extrusive and intrusive in character and contains mineral ores and beautiful crystalline minerals.

Some of these quarries in the past have been so prolific in giving specimens of quality that they are well known to collectors in the United States and in Europe. Also, there are others in the same area that have yielded few if any worthwhile material. Still, it is to the advantage of collectors to visit the less frequented quarries because there is always the possibility of finding something different.

The Prospect Park quarry contains an outcrop of various colored basic igneous rock, and is well visited because of the interesting crystal formations of calcite, zeolites and associated minerals that have been found there. Some collectors have been most fortunate in finding at this quarry small groups of golden rhombohedrons and large doubly terminated calcite crystals.

The peculiar soft green rock, occurring at irregular intervals in the trap, is often pocketed with acute, colorless rhombohedrons commonly called dog-tooth spar. It is not uncommon to find such a formation coating a twisted layer of green prehnite. Sometimes these depositions form in groups of tiny, fragile crystals that resemble a composite flower.

More often there is no plan of growth. The crystals appear to have arranged themselves in a confusion of penetrating and distorted formations due to limited space. George L. English, in his book on rocks and minerals, writes of crystals as being the flowers of the mineral kingdom. Whenever I see a group of dog-tooth spar, I always think of that statement.

About a year ago, I found two specimens of dog-tooth spar on prehnite. Neither is attractive but I kept them because they were the first I found. One evening last spring, I was using a purple x bulb and noticed a faint glow from each specimen after the light was extinguished. I brought the u. v. light closer and to my complete surprise both specimens exhibited the property of vanishing phosphorescence. The best effect was obtained by holding the light about an inch away and exposing the slender crystals to the light for a few minutes. The period of decay lasted for a period long enough to enjoy the beauty of this interesting type of luminescence. The color was not brilliant such as that of the Texas calcite, but it made me wonder what natural forces singled out these two pieces and included a chemical makeup and a compounding process which resulted in this phenomena?

The two phosphorescent calcite specimens were found in the Prospect Park quarry, Paterson, N. J.

MINERALS OF SKYLINE DRIVE AND THE BLUE RIDGE PARKWAY

By A. C. HAWKINS

Among the scenic routes of the eastern United States, the Skyline Drive and its continuation farther south in the Blue Ridge Parkway, hold high rank. As a delightful means of approach to our southern mineral localities they are highly recommended by those who should know the situation best.

The Drive is entered upon just south of Front Royal, Virginia, where the country rock is the "Valley" limestone, of Cambro-Ordovician age. There are several interesting caves in the vicinity. Skyline Caverns (open to tourists in normal times) and Allen's cave (discovered a great many years ago; not now commercially exploited) are both close to the western flank of the Blue Ridge. At Skyline Caverns a quantity of cream-colored flowstone with narrow brown bands of colophane (hydrus phosphate of lime) was taken out when the cave was prepared for opening to the public. Parts of the deposit, which occurs on floor and walls of the cave, are over a foot thick. This material is, however, too porous to take a good polish. From this same cave were obtained some thinner crusts of a brown banded calcium phosphate.

As the road ascends the Blue Ridge Mountains, it leaves the limestone and climbs a great uplifted fault-block of pre-Cambrian igneous and metamorphic rocks, whose relationships are well exposed in the numerous road-cuts along the mountain-tops. Interest in the geologic exposures on one side of the Drive comes into competition with that in the superb scenery on the other, so "watch your step!"

The major part of the rock along the summit is ancient "greenstone," which originally was a basalt, later sheared and re-crystallized by mountain-building processes into a hornblende-chlorite schist. This greenstone was intruded by large masses of very fresh-looking black basalt of much later date. In the basalt there are large quantities of epidote of a

typical pistachio-green color; some portions of the rock are locally entirely replaced by it. Micro-crystals of epidote are obtainable in places. There are other spots where the basalt is full of bubble cavities; these are filled with light-colored feldspar, quartz, etc., giving what is called a vesicular structure. Some of the larger glassy-looking spots in the basalt are actually quartz—some of the rock is a quartz-basalt. Along the southern part of the Drive, a few miles northeast of Waynesboro, Virginia, the epidote occupies "plumose" cavities in the basalt, with rims of pink feldspar, closely resembling occurrences in the Lake Superior region. Amphibole asbestos, soft and silky, fills narrow veins in the basalt which is exposed in one of the road-cuts.

If you look carefully you will see, in a few places, conspicuous green stains of malachite on the rocky walls. This contrasts strongly with the color of the epidote close by, and makes an excellent object-lesson for the numerous people who are constantly trying to tell us that epidote-bearing rocks, being green, "contain copper." There is an old copper mine near these outcrops, somewhere to the east of the Drive, which is shown on some maps, and should be investigated.

With the schist and diabase, there are also large intrusions of granite, whose color is of lighter shades; and some quartzite rock of Cambrian age.

Just above Waynesboro we leave the Drive (which is as yet uncompleted for some miles southwest of this point), and proceed to Roanoke, Virginia, where the Blue Ridge Parkway is entered by way of Route 221. The Parkway curves back and forth along the summit of the southeastward-facing Blue Ridge escarpment, and many superb views are afforded across the piedmont region of Virginia and North Carolina. This route is famed for its beautiful laurel and rhododendron. Geologically and min-

eralogically, also, the Parkway is very interesting. On the steep north face of Bent Mountain, where Route 221 ascends easily to a 2,650-foot elevation, note the great cliff of pink granite, located about two-thirds of the way to the top. The granite is traversed by large dikes of greenstone; and both rocks are sharply cut through by later dikes of black basalt. No crystallized minerals, however, were observed on any of the contacts.

Southwest of the intersection where the Blue Ridge Parkway leaves Route 221, the rock bordering the route, for a hundred miles or more, is the mica schist of the pre-Cambrian Wissahickon series. This is intruded by hornblende gneiss bodies which represent ancient intrusives, and by numerous small quartz veins. The latter carry very few crystallized minerals. Some contain interesting "primary" calcite which, on weathering out, leaves negative crystal cavities in the form of the ordinary unit rhombohedron. Others contain small lustrous black plates of ilmenite which are very characteristic of that mineral. One occurrence of true rose quartz was found, on an almost impassable country road, a mile west of the Parkway. This is not to be confused with the occasional quartz fragments with various pale red, yellow and brown colors which are due to various degrees of oxidation of the iron which is in them, under the humid climatic conditions of the Southland. These latter, by the way, will occasionally cut attractive cabochon stones.

Route 8, which descends to the piedmont below, takes you to Fairystone Park in Patrick County, Virginia, where the proprietor of the little souvenir stand on Route 346 will show you where to search for staurolite twins in the matrix. Or, if you care to see and obtain flexible sandstone, take Route 52 at Fancy Gap and proceed to Mt. Airy in North Carolina, and thence to Gap in Stokes County (see a road map).

The vicinity of Fancy Gap, Virginia, at the junction of Route 52 with the Parkway, yields quantities of spessartite garnets in schist. These do not occur in

the rock along the Parkway itself, but may be found at various points within a mile to the east or west of the drive. For instance, you will find them in the schist outcrops which occur in the pasture back of the little white church, located on the east side of the Parkway about 7 miles northeast of Fancy Gap. The development of most of the crystals is rather poor. Again, certain layers of the schist along the mountain front are filled with small octahedrons of magnetite, which weather out, and may be collected in sandy washes.

At a point just north of the State line, Route 89 may be followed to Galax, Virginia (a distance of 8 miles), where the schist contains large staurolite twins, and quartz veins carry excellent cyanite and tourmaline. These may be found with the help of local mineralogists.

The Parkway eventually takes you to other excellent highways by which you may reach Spruce Pine, North Carolina, a mecca for mineral collectors.

Triboluminescent Streak

In the November, 1942, issue of ROCKS AND MINERALS, B. M. Brehm, of Warren, Ohio, reported a peculiar streak which he had noticed when sawing a willemite. One of our subscribers answers Mr. Brehm's query as to the nature of the streak.

"The phosphorescent streak you reported is triboluminescence—only a few willemites show it. Pectolite from Paterson, N. J., and sphalerite from Tsumeb, S. W. Africa, show it much more strongly only yellow instead of green. This is the production of light by rupture of a crystal—quite independent of heat, ultra violet, etc., but produced by the same impurities in the crystal that are responsible for fluorescence—it is mostly an electrical discharge."

M. A. NORTHUP,
Morristown, N. J.

SOME MINERALS OF ALGERIA

Algeria is a French colony, in the northwestern part of Africa, whose area is about 847,000 sq. miles, and whose population is about 6,000,000. The country is divided into two great divisions, Northern and Southern Algeria. Over 5,000,000 live in the northern part of the colony and especially along the coast. The northern part of Algeria is made up of three provinces or departments as follows: Oran (on the west); Algiers (in the center), and Constantine (on the east). Southern Algeria comprises the territories of Ain Sefra, Ghardaia, Touggourt, and the Oases of Sahara.

Algeria is bounded on the north by the Mediterranean Sea, on the east by Tunis, on the south by the Sahara Desert, and on the west by Morocco.

Algiers, a seaport in the northern part of Algiers Province, is the capital and largest city of the colony. Its population is approximately 226,000. The city is situated at the foot of the Sahel Mountains. In the Middle Ages Algiers became "famous" as the "Pirate city", whose piratical inhabitants roamed the Mediterranean from one end to the other, preying especially on ships.

Algeria Rich in Minerals

Algeria is rich in minerals, most of which are found in the province of Constantine, where antimony, copper, lead, iron, mercury, and zinc mines have been worked. As in Tunisia, the colony is also famous for its immense phosphate deposits. The ancients Romans used to quarry very fine deposits of onyx and many of these ancients workings have been found near Kleber, in the province of Oran.

Some Minerals of Algeria

Anhydrite: Massive beds of anhydrite interlaminated with massive beds of gypsum occur in Oran province.

Antimony: Several deposits of antimony ores occur in Algeria. One ore body in the Neocomian limestone at Djebel Haminat, Constantine province, contains senarmontite and stibnite. Another im-

portant deposit in the same province is the Hamman N'Bails mine, which is owned by the great Belgian smelting company, Societe de la Vieille Montagne.

Apophyllite: Nice crystals have been found at Collo, in the northern part of Constantine province.

Barite: A considerable deposit of barite occurs in the Djurjura Mountains, northeastern Algiers province, above the small port of Dellys. The deposit has been mined.

Biotite: Nice black flakes occur in the granite of Djebel Tazeroute (a small hill in central Oran province).

Calamine: Nice crystals occur at Ghergour. Calamine is an important zinc ore (see zinc).

Calcite: Beautiful stalactites occur in the caves at Beni Had, in northwestern Oran province, about 12 miles east of the small city of Tlemcen.

Cerussite: Pretty little crystals are sometimes found in the cavities of solid masses of nadorite at the mines on Djebel Nador. It also occurs near Saida, in central Oran province.

Cervantite: The chief ore of the Ain-Kerma mine. See stibnite.

Chromite: The chief ore of chromium. Has been mined.

Cinnabar: The chief ore of mercury. A good deposit occurs at Ras-el-Ma, in northern Constantine province, about 15 miles S. E. of the port of Philippville. See mercury.

Coal: Coal fields occur at Kenadza in Ain Sefra territory.

Connellite: Nice specimens of this blue sulphato-chloride of copper, occurs at Mouzaia.

Copper: Near the foot of the Moazaia Pass, is an old copper mine whose veins consist of siderite and tetrahedrite.

Descloizite: Found at Djebel Grouz, Constantine province, with vanadinite; also near Saida, central Oran province, with vanadinite.

Prehnite: Nice specimens occur at Djebel-Mellah, in northern Oran province.

Pyrite: Has been mined.

Pyromorphite: Found with vanadinite at Djebel Grouz, Constantine province.

Rhodonite (Bustamite): Occurs with ilvaite at Cap Bon-Garonne. See ilvaite.

Scorodite: Nice green drusy masses of this hydrous ferric arsenate occur at Djebel Debar, in northern Constantine province.

Senarmontite: Antimony trioxide, a result of the decomposition of stibnite and other antimony minerals. It was first found in the district of Haraclas, Constantine province. Nice grayish crystals, sometimes $\frac{1}{2}$ inch in diameter, and narrow veins of the minerals occur at Djebel Haminat in Constantine province.

Siderite: Iron carbonate. Occurs as a vein in an old copper mine. See copper.

Silver: Has been mined.

Sphalerite: The most important ore of zinc. See zinc.

Stibnite: The chief ore of antimony. Mined on Djebel Haminat, Constantine province. The mineral forms incrustations and follows the bedding planes of Cretaceous limestone at Djebel-Taya, 3 miles from the station of the same name on the railroad between Khroub and Duvivier in northeastern Constantine province. At Ain-Kerma, 10 miles northwest of the city of Constantine, in northern Constantine province, stibnite, altered near the surface to the yellow oxide, cervantite, occurs along the contact between Triassic marl and Cretaceous limestone as a fracture filling. The deposit was worked during the World War up to 1928, the ore being chiefly cervantite.²

² Mineral Resources of the United States, 1930, Part 1, p. 9.

Sulphur: Occurs as an impregnation and in the form of thin coatings on joints at the kiselguhr quarry between Ouillis and Pont du Chelif in northeastern Oran province.

Valentinite: Antimony trioxide. Crystalline pure masses found in the Haraclas district, Constantine province. Nice crystals have been found at Senza (or Sensa), 42 miles S.E. of the city of Constantine, in northern Constantine province.

Vanadinite: Found with descloizite, mimetite, and pyromorphite at Djebel Grouz, Constantine province; occurs also with cerussite, descloizite, and endlichite near Saida, central Oran province. Endlichite is a variety of vanadinite.

Volgerite: Antimony ocher. Massive or as a powder, color white; is a common alteration of stibnite. Found at the antimony mines of Constantine province.

Willemite: Small gray crystals on rock occur at Bow Thaleb.

Zinc: Zinc ore has been mined rather extensively at various places in the colony as deposits are found at numerous localities in northern Algeria from the frontier of Tunisia to the border of Morocco. The chief area, however, is in the province of Constantine where the ores, calamine, sphalerite and galena occur chiefly as replacement deposits in limestone. The most important mines are the Hammam N'Bails and the Ain Arko, in Constantine province.

Important deposits also occur on Djebel Belkif in northeastern Constantine province where the ores are calamine and galena.

The Oued Moziz mine in the province of Oran yields both lead and zinc.

Other mines are at Guerrouma, R'arbou, and Sakamody.

Everybody Pleased!

Judging from letters received, dealers are swamped with orders so that it is most difficult for them to keep minerals in stock. We have also had many interesting letters

from collectors expressing their delight over many items purchased from our advertisers. The more purchases that collectors make, the more is everybody pleased!

Dolomite: Nice crystals occur at Biskra, west Constantine province.

Dussertite: A hydrous arsenate of calcium and ferric iron. Found as crusts of minute green crystals on tabular or cavernous quartz at Djebel Debar, northeast of Hammon Meskoutine, north Constantine province.

Emerald: A number of water-worn pebbles have been found in the bed of the Harrach River where it joins the Qued Bouman River, in Constantine province. Emerald crystals have also been found in white limestone in the Harrach valley.

Flajolotite: Lemon-yellow nodular masses. During the first World War, antimony minerals including flajolotite (hydrous antimonate of iron) and nadorite (an oxidized antimony mineral containing lead chloride), associated with zinc, were mined at Hamman N'Bails, Constantine province.

Galena: Chief ore of lead. See lead and zinc.

Gypsum: Massive beds of gypsum often interlaminated with massive beds of anhydrite occur at many points in Oran province. Sometimes cavities occur in the gypsum in which are found nice little crystals of selenite. The translucent, alabaster variety is sometimes found in the same beds; the famous alabaster of Algeria occurs near Kleber—see marble.

Ilvaite: Calcium iron silicate. Small black crystals have been found with rhodonite (bustamite) at Cap Bon-Garonne.

Iron: Has been mined. A few years ago a large tonnage was shipped to Philadelphia, Pa. from a mine on Djebel Djerissa, near the little town of Beni-Saf, near the city of Oran, in north Oran province.

Ktypeite: Calcium carbonate in the form of pisolithes. Occurs at Hammam-Meskoutine, north Constantine province.

Lead: Lead and zinc mines are at Ain Arko, in Constantine province; the Oued Moziz mine in Oran province also yields lead and zinc ores.

Marble: The most celebrated and remarkable deposits of marble, including onyx and alabaster, from which the ancient Romans drew their supplies, are found near Kleber, (north Oran province, near the coast, 18 miles east of the city of Oran). One valuable deposit is on Djebel Orousse.

Mercury: Rather extensive deposits of mercury exist in the districts of Guelma and Jemmapes, Constantine province, but the only deposit of note is the Ras-e'-Ma mercury mine. See cinnabar.

Mimetite: Lead chlorarsenate. Found with vanadinite at Djebel Grouz, Constantine province.

Nadorite: A rare lead chlorantimonate occurring in crystals and masses at Djebel-Nador, Constantine province, and named for the locality. It is smoky brown to brownish yellow in color and is associated with zinc ores in limestone; occasionally pretty little cerussite crystals are found in cavities of nadorite masses.

Natrolite: In fine crystals in Dellys, a coast village in the northern part of Algiers province.

Opal: Occurs in little nodules of gray, brown, and black opaline silica (menilite) of resinous luster, embedded in various phases of an organic deposit, particularly in beds representing a mixture of siliceous and calcareous materials in a kiselguhr quarry located about midway between two small villages, Ouillis and Pont du Chelif, in northeastern Oran province.¹

Pelagosite: A thin, dark colored incrustation on the rocks occurring along the coast of Oran province, is thought to have been produced by the action of sea water on limestone.

Phosphate: Phosphate mines occur at Djebel Dyr and Djebel Kouiff, a few miles from the city of Tebessa in east Constantine province.

¹ A Kiselguhr quarry in Algeria. Rocks and Minerals, July, 1942, p. 243.

A Glossary of Arabic Words

(With Some Abbreviations)

Abiod (feminine)	white	Kebir	great
Ahmar (masculine)	red	Kef	cliff or rocky promontory
Ain (Ac)	spring, fountain	Kouba (Ka)	a tomb, usually of a holy man; a shrine
Allah	God	Koudia, plural koudiat (Kt)	knoll, hill-top
Bab	gate	Maghreb or Moghreb	west
Beida (masculine)	white	Marabout (Mt)	a holy man, a saint; also applied to a shrine often built over a saint's tomb
Bled	country, region, plain	Melh	salt
Borj	tower	M'llah, mellah, or malah	saline
Chabet (Cht)	canyon, ravine, small water-course	Meskoutine	accursed
Djebel (Dj)	hill, mountain	Nullah	a dried up water-course
Douar (Dr)	hamlet or large encampment	Oued (Od)	river or small stream
El	the	Oulad (O or Od)	sons of (tribal groups)
Erg	sand dune	Sefra	yellow
Fesquia	reservoir	Serir	water-worn pebbles
Gebel (G)	same as Djebel	Sharq	east
Gibli	a sand-laden desert wind	Shat or Chott	a canal, estuary, salt lake
Hadid	iron	Sidi	an honorable title of a holy man, a lord, a prince
Hamad	a stony plain, a steppe	Souk	a bazaar, a market-place
Hammam	a bathing place	Tel	a hill
Hamra (feminine)	red	Tell	the name applied to that portion of Algeria and Tunisia lying between the coastal plains and the high mountains
Hamri	reddish ground	Wadi, or Wad (W)	river or small stream
Jalib	a well	Wahran	a ravine
Jebel (J)	same as Djebel		
Kantara	a bridge		
Kasba	a fortress or castle		
Kasr	a castle		

DRUSY QUARTZ NEAR EUREKA SPRINGS, ARK.

John Jennings, a member and advertiser from Eureka Springs, Ark., discovered recently an interesting occurrence of drusy quartz encrusting cavities of a limonitic chert. The specimens sent to the offices of ROCKS AND MINERALS are very beautiful—the best we have ever seen for this type of quartz. On some minerals the drusy quartz is milk-white in color which when encrusting a gray chert, spotted brown by limonite, makes a pleasing specimen.

The occurrence is on a mountain side

near Eureka Springs (northwestern Arkansas) which Mr. Jennings plan to prospect very thoroughly after the winter snows disappear.

Mr. Jennings has found quite a number of nice specimens during the past few months. Writes he:

"Frankly I owe considerable of my success in finding minerals to your book, *How to collect minerals*, and as I am shipping same all over the country, the specimens must possess some merit."

MINERALOGICAL MUSINGS

By **GEORGE H. PORTER**
Bridgeport, Conn.

Minerals in Cornwall, England; Minerals in Persia, Baluchistan, Afghanistan and India! Priceless specimens easily gotten and as carelessly discarded.

Trouble is, I became *really* interested many years late.

Cornwall was the land of my birth and boyhood, this pleasant little county, sea and wind swept, where the sound of old-fashioned water driven mine stamps was a familiar one. Where such famous mines as Dolcoath, Levant, Killifreth, Botallack, Wheal Jane and many others disgorged their wealth of tin and copper. From ancient days to then, Cornwall produced huge quantities of tin and copper and many other valuable ores. Traces of old workings, hundred of years old, are to be found, especially at Baldhu.

Mines have always held a great fascination for me, to see the vast surface works, and go underground in the rattling "kibble" or "skip", to explore old abandoned mine adits, to pick over the many square miles of dumps, "mine burrows" we called them then,—this occupied many happy boyhood days. And what a paradise for the collector! In the field back of our garden, there was an old mine "burrow" and from this point one could walk twenty miles straight north and never be quite out of sight of some mine, either working or abandoned.

Now, all this preamble is to register my regret that I started to be properly interested in minerals forty years later. I've stumbled across old workings in Persia, around Meshed, famous for turquoise, picked up Topaz crystals in Afghanistan, and collected fine gems in India, to say nothing about finds in Cornwall—all to be lost or carelessly discarded. Oh Boy! what opportunities lost!

I was a Lieutenant and acting Captain in the Indian Army, 1916-1919, and was second in command of a camel corps that travelled from Dalbandin, Baluchistan, to Birjand, Persia. Our camel men were mainly Mussalmen, good fellows all. Some of the younger men and myself

often explored the surrounding hills during our daily trek through the rather mountainous and barren part of Persia.

Well, it was in Connecticut where the gadfly bit, and registered. I am quite sure that the sight of a very fine large, smoky quartz crystal on the porch of Mr. James Moore's home in Bridgeport, the Bridgeport Mineral Club, and last but not least, ROCKS AND MINERALS Magazine, were the three factors that started Mrs. Porter and myself off to the most satisfying and healthful hobby we have ever had.

To go back to Cornwall again, what a place for collectors—almost every mineral in the world can still be found on the vast areas of mine dumps. Arsenic, tin, wolfram, pyrites (all four) almost all of the coppers, goethite, and the commoner irons; galena, silver, gold and many other rarer specimens. What adventures were ours exploring the old abandoned mines with the aid of a miner's candle and stout rope, many of the adits opened on to the beaches, where the cliffs rose from fifty to three hundred and more feet above the sea. Some of these trips were dangerous, one always had to be on the alert for "winzes" and "stopes", which were often a hundred or more feet in depth. Some of the shafts, hundreds of years old, are still intact but some of the levels and stopes that were worked very near "grass" have subsided and are now depressions in fields and pastures ranging from ten to fifty feet in depth and covered with trees and brush.

There is a revival of mining in Cornwall just now, due to the scarcity of the precious tin ore, "Cassiterite". Many new ventures on a small scale and old mines reopened are quite active and profitably worked.

There are literally thousands of old mine shafts in Cornwall ranging from ten to many hundred fathoms in depth—dangerous places which must be securely fenced around.

The old miners of a century ago had a rather dangerous method of sealing an

ROCKS AND MINERALS

abandoned shaft. They placed heavy Norwegian pine timbers, twelve inches square, across the shaft at bed rock, filled in the few feet to surface, and the job was done. The old miners passed on, no record or marker was kept about the location of such a shaft. Years of moisture from the water filled mine eventually rotted the timbers and down they went, often causing death and injury. One-third of the county's population were employed under or above ground in the mines. They were a rugged race of men, their sons are scattered to the four winds. Wherever there is a "hard rock" mine of any size in any part of the world, there will be the Cornishmen.

And now, to Connecticut. Here, too, is a happy hunting ground for Mineralo-

gists. We have found beautiful specimens at Portland, Haddam, Roxbury, Hatterstown, Branchville, Morris, Canton and many other localities. Here are some fine specimens fit to grace any collection—Columbite, Cassiterite, Pyrite, Marcasite, Malchite, Azurite. Fine limonite from Salisbury, Bismuth from Monroe, Beryls, pink and green and gem Tourmalines from Haddam. Clear large Quartz crystals from Roxbury and Stafford Springs, Portland and Hadam. Smokies from Morris these are the clearest in the world. Add to the surety of getting all of these specimens, the pleasure of the grand trips thru the most beautiful state in the Union. No wonder the rock and mineral collector has the finest of all Hobbies!

THE CELO CYANITE MINE

By KENT C. BRANNOCK

The Celo cyanite mine is located 4.3 miles east of Burnsville, in Yancey County, North Carolina. To reach it turn south from highway 19E two miles from Burnsville. The plant can be seen from the highway, perched high on the mountain at the end of a narrow, winding road which is 2.3 miles long.

The material which is mined is a highly metamorphosed acid schist which contains about 15% cyanite. The cyanite is concentrated and calcined at the mine, and garnet is obtained as a by-product. About twenty different minerals are found in the schist, many of which are in microscopic quantities only.

Most of the cyanite occurs in the usual gray, or blue, bladed crystals. One choice specimen, which one of the workmen gave me, is about five inches long, and has one side covered with long crystals of cyanite. Elsewhere in the specimen there are visible amounts of the following minerals: biotite, muscovite, graphite, feldspar, quartz, and garnet (in small pink grains). Tourmaline (black) and apatite are found locally in the schist, and I obtained a fragment of a transparent yellow crystal of apatite. Among the minerals found in lesser

quantities are: sericite, monazite, chlorite, limonite, etc.

Along the road leading up to the mine an interesting occurrence of garnet was found which made me thankful that I walked up the mountain. There was a small pegmatite exposed in a cut in the road, and the feldspar was studded with trapezohedral crystals of almandite. One group of crystals which I obtained (about 2½ inches long) broke in half, exposing several long, almost cylindrical, cavities within the garnets. These may have been formed by the weathering-out of elongated feldspar crystals which were once included by the garnets. The garnet crystals were accompanied by mica, and I found some good muscovite with magnetite inclusions. An unusual crystal was found which was about three inches long, and which was half muscovite and half biotite with a sharp line of division between the two.

Although I spent only an hour at the mine itself, I came away with several good specimens, and feel well repaid for my trouble. Mr. V. L. Mattson, the manager of the mine, was very helpful to me. I heartily recommend that you visit this locality at your first opportunity.

SOUTHERN CALIFORNIA LOCALITIES

By JACK SCHWARTZ

656 South Hendricks Ave., Los Angeles, Calif.

4. Lavic

About thirty-five miles past Barstow, on highway 66 leading towards Needles, California, one would hardly notice the huge jasper deposit nonchalantly resting beside the Pisgah crater. Chapman (1937) says of this crater, "the flows being so recent that they appear to have cooled only yesterday." And so it is, for the average person could well imagine that this crater was erupting, sending its black lava over the countryside, only yesterday.

The jasper deposit runs from the highway into the interior for miles. Automobiles and trucks containing mineral collectors have driven on this deposit, making a roadway extending some distance, the jasper automatically making the ingredients for the paving.

The writer has spent several exciting days in this area. One begins walking and picking up all kinds and colors of jasper along with small pieces of chalcedony, some containing various agates and geodes. However, after the first hour, with the pack becoming very heavy, the collector must become "choosy".

The best jasper that the writer has collected from this locality is known as moss jasper. Usually occurring in colors of red, green and yellow, this material is unusually pretty when cut and polished with the mossy mixtures predominate.

Bloodstone is rare here, but some has been found.

Other jaspers found here include variegated jasper, the colors running in every which way not unlike various colors of paint that have been mixed slightly and let harden. Banded jasper, in which the colors form circular lines, each a separate band. Linear jasper, where the colors form straight lines instead of circular. Pictured jasper, the colors forming distinct pictures, such as caves, lakes, forests, etc. The mottled jasper, where there are no distinct designs, blotches here and there, and colors running into one another.

Many of the pieces of jasper when broken open will contain a small, perfect quartz crystal geode.

Among some of the agates collected here by the author, some contained beautiful geodes, banded agate, fortification agate and sagenitic agate. The sagenitic agate contains slender hairs of black inclusions.

Larger pieces of this jasper has been collected by the carload, taken home and now adorn rock or cactus gardens.

Pabst (1938) reports wulfenite and mimetite from mines surrounding Lavic.

Literature:

Chapman, E. W.
1937. Barstow desert localities described. *Mineralogist Mag.* 5 (1):9-10.

Pabst, A.
1938. *Minerals of California*. Calif. Div. Mines Bul. 113.

Be Patient!

If your magazine is late in arriving, please be patient. It is beyond our control. Of all mail going through the post offices, magazines are now receiving the least attention. Post offices, transfer stations, etc., handle them only "when convenient". The war won't last

forever and conditions are bound to become normal again. In the meantime, please wait until the 25th of the month and if your copy for that month fails to arrive—drop us a card and another will be sent you.

CLUB AND SOCIETY NOTES

New York Mineralogical Club, Inc.

American Museum of Natural History, New York, N. Y., Wednesday, Dec. 16, 1942.

Convened: 8:10 P.M. Attendance: 61.

The minutes of the previous meeting were read and approved. Dr. Pough called the members' attention to U. S. Geological Survey Bulletin #936-A entitled "Muscovite in the Spruce Pine District, North Carolina." This bulletin, which may be obtained from the Superintendent of Documents, Washington, D. C., contains a map showing the location of 375 mines and prospects.

Mr. Trainer exhibited certificates of honorary membership as prepared for:

Dr. Waldemar T. Schaller

Prof. Charles Palache

Dr. Leonard James Spencer

Prof. William L. Bragg

Mr. Herbert P. Whitlock

Mr. Northup read a letter of acceptance and appreciation for honorary membership from Mr. Whitlock.

Mr. Trainer distributed illustrated abstracts of Miss Armstrong's lecture on quartz as presented at the November meeting.

Mr. Trainer then introduced the speaker of the evening, Dr. A. F. Buddington, retiring President of the Mineralogical Society of America, whose subject was: "The Rate of Progress in Mineralogy and Its Significance.

(Copy of abstract is attached)

The meeting was adjourned at 9:15 P.M.

M. ALLEN NORTHUP,
Secretary.

Northern Ohio Guild

A regular meeting of the Guild was held on Thurs., Jan. 7th, 1943, at Western Reserve University, Cleveland, Ohio. The program consisted of a lecture on garnet—January's birthstone—by Dr. Donner, of the University; a talk, "Curious lore and legends of the garnet," by Herbert Fuerst; Evaluation of a selection of garnets by individual members, conducted by Wm. Theis; study session for students under supervision of Mrs. Nina Martin.

Mineralogical Society of Arizona

The Society is now issuing an attractive 3-page bulletin called *Rockbound Record* which goes to its large membership. The January, 1943, issue announced the program for the two meetings of the month and printed some interesting notes on the garnet and ruby. In order to make the bulletin "bigger and better," the Society is circularizing its membership for ideas and suggestions.

Abstract—Rate of Progress in Mineralogy and Its Significance

A. F. Buddington, Dec. 16, 1942.

An attempt is made to forecast what may be expected in the Mineralogic Sciences in the next forty years based on the progress and the rate of progress during the past forty years. The conclusion is drawn that the young man starting a professional career today in mineralogy may expect to see in the future at least one really new field of mineralogic science develop on the average every ten years. The average length of time for a major new technique or theory of mineralogic science to have its principles and body of data developed and incorporated in one or more textbooks adequate for instruction and routine use is about 20 to 25 years. There has been as much progress in the mineralogic sciences in the past 50 years as in all previous time and there is no indication of a decrease in the present rate of expansion. Perhaps at least half of our progress in the past forty years in the mineralogic sciences in the United States has been through direct importation of new ideas and techniques from abroad. In numerous instances there has been inexcusable lag in making such importations, due undoubtedly in large part to language barriers. The proposal is made that some organization, after the war, see to it that this delay is minimized through seeing to it that a group of the best papers of the year published in foreign languages are selected, translated into English and republished.

Montana Society of Natural and Earth Sciences

The annual rock show of the Montana Society of Natural and Earth Sciences, of Bozeman, Mont., was held on Thurs. and Fri., Jan. 14 and 15, 1943, at the Presbyterian Church, in Bozeman. In spite of bad weather the show was well attended and the many minerals on display attracted considerable attention. The exhibits were prepared by adult and junior collectors but only the juniors were allowed to compete for prizes.

Three juniors won the following prizes:

One year subscription to ROCKS AND MINERALS—Phyllis Monroe.

One year subscription to ROCKS AND MINERALS—Archie Bolster.

How to collect minerals (Zodac)—Hayden Elliott.

All prize winners are from Bozeman.

H. E. Murdock, Sec'y.

Clubs Affiliated With the Rocks and Minerals Association

ARIZONA

Mineralogical Society of Arizona

Geo. G. McKhann, Sec., 909 E. Willetta Street, Phoenix.
Meets at the Arizona Museum in Phoenix on the 1st and 3rd Thursday of each month.

CALIFORNIA

East Bay Mineral Society

Miss Nathalie Forsythe, Sec., 1719 Allston Way, Berkeley.

Meets on the 1st and 3rd Thursdays of each month (except July and August), at 8:00 p.m., in the Lincoln School Auditorium, 11th and Jackson Sts., Oakland.

Northern California Mineral Society, Inc.

L. M. Demrick, Sec., 424 Ellis St., San Francisco.

Meets on the 3rd Wednesday of the month at the Public Library in San Francisco.

Pacific Mineral Society

Mrs. Maude Oke, Sec., 9115 S. Harvard Blvd., Los Angeles.

Meets on the 2nd Friday of each month at 6:30 p.m., at the Hershey Arms Hotel, 2600 Wilshire Blvd., Los Angeles.

Southwest Mineralogists

Dorothy C. Craig, Corres. Sec., 4139 S. Van Ness Ave., Los Angeles.
Meets every Friday at 8:00 p.m., Harvard Playground, 6120 Denker Ave., Los Angeles.

COLORADO

Canon City Geology Club

F. C. Kessler, Sec., 1020 Macon Ave., Canon City.

Meets on the 1st and 2nd Saturdays of each month at 9:00 a.m. in the High School Building, Canon City.

CONNECTICUT

Bridgeport Mineral Club

Miss Georgianna Seward, Sec., 2859 Main St., Bridgeport.

Meets in the Bridgeport Public Library on the 3rd Monday of the month.

Mineralogical Club of Hartford

Frank P. Rockwell, Secretary, 88 Fern St., Hartford.

Meets the 2nd Wednesday of each month, at 8:00 p.m., at 249 High St., Hartford.

New Haven Mineral Club

Mrs. Lillian M. Otersen, Sec., 16 Grove Place, West Haven.

Meets on the 2nd Monday of the month at the Y. W. C. A. on Howe St., New Haven.

IDAHO—OREGON

Snake River Gem Club

Mrs. A. Ingraham, Sec., Box 714, Ontario, Ore.

Meets alternately in Payette, Idaho, and Ontario, Oregon, (two small cities on the Snake River) on the 3rd Tuesday of every month.

ILLINOIS

Junior Mineral League

William Dacus, Sec., Morgan Park Junior College, 2153 W. 111th St., Chicago.

MAINE

Maine Mineralogical and Geological Society

Miss Jessie L. Beach, Sec., 6 Allen Avenue, Portland.

Meets last Friday of the month at 8 p.m., at the Northeastern Business College, 97 Danforth Street, Portland.

MASSACHUSETTS

Boston Mineral Club

Mrs. Grace G. Dearborn, Sec., 40 Mt. Vernon St., Cambridge.

Meets on the 1st Tuesday of the month at 8:00 p.m., at the New England Museum of Natural History, 234 Berkeley St., Boston.

Connecticut Valley Mineral Club

Mary E. Flahive, Secretary, 96 South St., Florence

Meets on the 1st Tuesday of each month at 8 p.m. at various institutions in the Connecticut Valley.

MISSOURI

National Geologist Club

Mrs. D. P. Stockwell, Pres., Mt. Olympus, Kimmswick.

NEVADA

Reno Rocks and Minerals Study Club

Mrs. Rader L. Thompson, Sec., Box 349, R2, Reno.

Meets on the 1st Wednesday of each month, at 7:30 p.m., at the Mackay School of Mines, Reno.

NEW JERSEY

Newark Mineralogical Society

Louis Reamer, Secretary, 336 Elizabeth St., Orange.

Meets on the 1st Sunday of the month at 3 p.m. at Junior Hall, corner Orange and North 6th Streets, Newark.

New Jersey Mineralogical Society

G. R. Stilwell, Sec., 1023 W. 5th St., Plainfield.

Meets on the 1st Tuesday of the month at 8 p.m. at the Plainfield Public Library.

NEW MEXICO

New Mexico Mineral Society

R. M. Burnet, Sec.-Treas., Carlsbad.

Society of Archaeology, History and Art
Carlsbad.

NEW YORK**Chislers, The**

Miss Evelyn Waite, Sponsor, 242 Scarsdale Road, Crestwood, Tuckahoe.

Queens Mineral Society

Mrs. Edward J. Marcin, Sec., 46-30—190th Street, Flushing.

Meets on the 1st Thursday of the month at 8 p.m. at 8501 - 118th St., Richmond Hill.

PENNSYLVANIA**Thomas Rock and Mineral Club**

Mrs. W. Hersey Thomas, Pres., 145 East Gorgas Lane, Mt. Airy, Philadelphia.

Meets on the 3rd Friday of each month, at 8:00 p.m., at the home of its president, Mrs. Thomas.

VERMONT**Mineralogical Society of Springfield**

Victor T. Johnson, Sec., 11 Elm Terrace, Springfield.

Meets on the 3rd Wednesday of each month at 8:00 p.m. at the homes of members.

WISCONSIN**Wisconsin Geological Society**

Milwaukee Public Museum, Milwaukee, Wisc.

Meets on the 1st Monday of each month at 8:00 p.m., at the Public Museum in Milwaukee.

COLLECTOR'S KINKS**Cleaning Marcasite and Pyrite**

Some oxidized marcasite and pyrite crystals can be cleaned or their luster improved by brushing them gently with a long bristle brush dipped in warm oxalic acid solution (any strength). Continue brushing until the crystal faces are bright

and shining—then rinse them in boiling water and set aside to dry. The heat of the boiling rinsing water is absorbed by the specimens causing them to dry before re-oxidization tarnishes them. I have also cleaned galena crystals in this way.

EDWIN SKIDMORE.

A LODESTONE OCCURRENCE IN THE BELGIAN CONGO

By H. C. RAY

San Juan, P. R.

The article on lodestone in the August, 1942, ROCKS AND MINERALS, brings to mind an occurrence in the Belgian Congo, Africa, on which I have stood many times. It is located on the south side of the Longashimo River (a medium sized branch of the Kasai River which is the Congo's largest southern tributary), near the Kapopo diamond mine of the Cie Forestiere et Miniere du Congo, for whom I worked.

The lodestone was very strong, magnetically, and it took a real effort to pull away a prospecting hammer which it had attracted and what it did to watches and compasses was sad. It also seemed to be the "end of the rainbow" for a lot of lightning bolts which were very severe in that general section.

The outcrop was at least an acre in extent but the orebody was much larger. Our company mined it for a long time

—may do so yet—and rolled it in barrels to round it for jig bottoms. The ore was hard, broke with difficulty, and rounded in the same way. A piece of it would pick up quite heavy iron or steel particles. I cannot say where its poles were located.

As far as I know we never drilled the deposit. There were so many pieces of float lodestone in the vicinity that we gathered up these boulders and used them; the ore body itself was so fractured that many large pieces of lodestone could be pried out. The total tonnage mined was not very great.

I have heard that the natives smelted a little of the lodestone in their crude clay furnaces but cannot corroborate that. The deposit would have furnished a good source of iron ore but that part of Africa was not quite ready for iron manufacture.

Bibliographical Notes

California Journal of Mines and Geology

The State Division of Mines, Department of Natural Resources, under the direction of Walter W. Bradley, State Mineralogist, announces the release of the April, 1942, issue of the *California Journal of Mines and Geology*, being Chapter 2 of State Mineralogist's Report XXXVIII, 115 pages illustrated by photos, cuts, and maps.

This chapter contains a report on the Mineral Resources of Imperial County, by R. J. Sampson and W. B. Tucker of the Los Angeles office of the Division. It covers the County's water and power development, geology, and both metallic and nonmetallic mineral resources, mines and prospects. A map of the county showing the location of the principal mineral deposits is included.

This is followed by the Geologic Branch Current Notes and a Report by John C. Henshaw on the Geology and Mineral Deposits of the Cargo Muchacho Mountains, Imperial County, including the economic geology and description of the metal mines and nonmetallic ore deposits. It is accompanied by a geologic map of the mountain area.

There is a special article on the Imperial Carbon Dioxide Gas Field, by James C. Bransford, Petroleum Geologist, and one entitled "The Legendary White Metal and Its Ore" by C. W. Davis of the U. S. Bureau of Mines.

The text of Public Law 655 - 77th Congress, suspending assessment work on mining claims within withdrawn areas is given.

Included are the usual notes on Statistics, Museum, Laboratory, and Library.

The April, 1942, Quarterly is for sale at the San Francisco, Sacramento, and Los Angeles offices of the Division of Mines. Price, 60c. California residents please add 2c sales tax.

Publications Price-Cut

Contrary to today's upward price trend, but consistent with the general practice of selling California State mining publications at or near cost, Walter W. Bradley, State Mineralogist, Division of Mines, Department of Natural Resources, announces price reductions on many maps and a number of the earlier chapters of the State Mineralogist's Reports.

These new lower prices are made possible by the return of all its publications to distribution by the California State Division of Mines instead of through the State Supervisor of Documents; thus eliminating the Supervisor's overhead charges.

These price-cuts include all available chapters of Reports of the State Mineralogist (formerly titled "Mining in California"), from 1922 to and including 1929. These will now be sold for 30 cents apiece instead of 40 cents as formerly.

All maps formerly priced at 25 cents are now reduced to 15 cents, except several of the smaller sizes which are now 10 cents.

The 40-cent Northern Sierra Nevada Geologic Map now sells for 25 cents.

It is hoped that the greatly increased interest in war minerals and emergency mining will result in a larger volume of sales and thus permit still further price-reductions as the fixed overhead is more widely distributed.

Publications are for sale at the head office in San Francisco; in the Los Angeles office, State Building; in the Sacramento office, State Office Building. They may be referred to only in the Redding office, Chamber of Commerce building.

Report of the Committee on the Measurement of Geologic Time, 1941-1942. Alfred C. Lane, Chairman; John Putnam Marble, Vice-Chairman.

Presented at the Annual Meeting of the Division of Geology and Geography, National Research Council, May 2, 1942.

For a number of years the Council has been issuing annual reports on the measurement of geologic time by atomic disintegration. These reports have been intensely interesting and were in keen demand by collectors, mineralogists, and geologists.

The current issue (68 pages) contains a summary report of the Committee for 1941-1942; annotated bibliography of articles relating to geologic time; and supplementary reports on the works of various authors.

A copy of this report may be obtained by remitting 50c to the Division of Geology and Geography, National Research Council, 2101 Constitution Ave., Washington, D. C.

Bulletin No. 124 Commercial Minerals of California

By GEORGE L. GARY

The State Mineralogist, Walter W. Bradley, Division of Mines, Department of Natural Resources, announces that to meet a growing demand for a single volume containing the complete series of papers issued in recent months on the "Commercial Minerals of California," Bulletin 124 is now made available for distribution. These papers have been prepared and compiled by George L. Gary, Mineral Technologist of the division.

Due to war conditions and the attendant effort at conservation of supplies and labor, it was decided to issue these papers as a looseleaf bulletin. The perforations will fit any standard size binders. Such binders are on sale in varying grades at corresponding prices at stationery stores and at five-and-dime stores.

This type of volume provides for revision and expansion as marketing conditions change. As these changes occur, it is the intention to supplement the contents with up-to-date information on the properties, preparation, uses, tests, markets, and lists of possible buyers; with a bibliography. Announcements will be made of all new material in the Division's Monthly Commercial Mineral Notes.

Included with the series are the strategic minerals listed by the U. S. Army and Navy Munitions Board. There are some 50 subjects, which are as follows:

Aluminum
Andalusite - Dumortierite - Kyanite - Sillimanite (one paper)
Antimony Barium Bismuth Chromite
Arsenic Bentonite Borates Cobalt
Asbestos Beryl Cadmium Copper
Diamonds and Graphite (one paper)
Diatomite Gypsum Limestone Mica

Feldspars	Iodine	Magnesite	Molybdenum
Fluorspar	Iron	Magnesium	
Gold	Lead	Manganese	
Monazite and Allanite (one paper)			
Nickel		Nitrates	
Phosphate and Phosphate Rock			
Platinum		Silver	
Quartz		Strontium	
Quicksilver			
Sulfur and Pyrite (one paper)			
Talc		Vanadium	
Tin		Zinc	
Titanium		Zirconium	
Tungsten			

Orders will be filled at the San Francisco office in the Ferry Building, the headquarters of the Division; the Los Angeles branch office in the State Building; and in the Sacramento office, State Office Building, or it may be referred to at the Redding branch office.

Price, \$1.00. California residents please add 3c sales tax.

Individual papers are still available at 3c each handling charge, and free over the counter.

Questions and Answers

Ques. "I am anxious to buy a nice polished agate specimen. Have you any for sale?" Miss A. T., Greenup, Ill.

Ans. Practically every dealer advertising in ROCKS AND MINERALS has polished agates for sale. Send your order to one of them.

Ques. "What is a limonitic mineral?" R. B., Philadelphia, a.

Ans. A limonitic mineral is one consisting of limonite or is heavily stained by limonite.

Ques. I recently saw two specimens in a museum which looked alike (both were from the same locality) but labelled differently. One was labelled "Garnet crystals in schist," the other "garnetiferous schist." Can you enlighten me about this labelling? K. L., New Haven, Conn.

Ans. You apparently saw two exhibits in the museum—mineralogical and geological. In the mineralogical exhibit stress was laid on the mineral angle—hence the specimen seen was labelled "Garnet crystals in schist." In the geological exhibit, stress was laid on rocks, hence the specimen was labelled "garnetiferous schist." In the mineralogical exhibit the specimen was to show nice crystals of garnet (mineral)—perhaps only two or three large crystals were visible; in the geological exhibit the specimen was to show schist (rock) well sprinkled with garnets which often are of small size. Garnetiferous means "full of garnets."

Ques. In the perusal of dealers catalogs I have seen crystals described as being "in matrix, in rock, in granite, in schist, in limestone, etc." I can understand the last three listings but why the first? T. L., Buffalo, N. Y.

Ans. Crystals offered by dealers are, generally, either loose or else attached to or embedded in some mineral, minerals, or a rock. The material in which a crystal is embedded or attached to is called the matrix. If the matrix can be identified its name appears on the dealer's labels.

When a dealer acquires a large number of crystals, many of which are embedded in calcite, quartz, sphalerite, granite, limestone, pegmatite, or schist, in order to simplify their listings in the catalog, they are described as being "in matrix," or at times "in rock." But when one of the crystals is purchased, then the name of the matrix or rock is or should be given on the label accompanying the specimen.

Ques. "I am an amateur collector of minerals and would like to exchange with collectors from other states. Could you please give me the names of some?" R. W., Gastonia, N. C.

Ans. We would suggest that you run a small classified exchange ad in ROCKS AND MINERALS which would contact you with collectors all over the country.

With Our Members

Edwin Skidmore, of Westfield, N. J., visited the offices of ROCKS AND MINERALS, to amaze us with the performance of a new U. V. lamp which he, himself, had manufactured. We have seen all types of lamps—both large and small—but his lamp is in a class by itself.

Tarlton F. Parsons II, of Nyack, N. Y., is organizing a mineral club. He has nine members lined up so far but this will be greatly increased when the club is formed. Collectors residing on the west side of the Hudson

River, especially those in the vicinity of Nyack, should contact Mr. Parsons and give him their full support.

Benedict P. Bagrowski, of Milwaukee, Wis., is now a soldier in the U. S. Army stationed in the State of Washington. His classified ad, which has been running regularly in ROCKS AND MINERALS, is of course discontinued.

A. M. Irvin, of Dexter, Me., is in the U. S. Army, and J. H. Connor, of Atlanta, Ga., is in the U. S. Navy.

Collectors' Tales - - Through The Fire!

After giving a talk on minerals at a club meeting, I discovered the next day that my fine, deep-colored amethyst from Amelia Court House, Va., was not in its accustomed place in the cabinet. Where could it be? Did some collector walk off with it?—several had admired it greatly! Finally it dawned on me, three days later, that I might have thrown it into the furnace along with the paper that

had been used for wrapping the specimens taken to the meeting. I rushed into the cellar, shook the grates in the furnace a few times, and—there on top of the hot ashes was the amethyst before me—just as pretty and good as ever! In three days' "rest" in the furnace fire did not harm it at all!!

EDWIN SKIDMORE.

With Our Dealers

Ward's Natural Science Est., Inc., of Rochester, N. Y., have just released another catalog (No. 431) entitled *Minerals for the Collector*. It is a 40 page publication. During the past year Ward's have acquired a number of splendid collections and this catalog includes the specimens thus obtained. The minerals are arranged alphabetically, beginning with Alabandite on page 4 and ending with Zunyite on page 21. Ultra violet lamps, collections of fluorescent minerals, collections for mineral study, supplies for mineralogy, and books for the mineralogist are other items featured. A number of illustrations add interest to the text.

A new advertiser makes his appearance in this issue of ROCKS AND MINERALS. He is Eric Mayers, of Tucson, Ariz. He has acquired, through purchase, a large assortment of minerals from the famous Mammoth mine, of Tiger, Ariz., and is offering them for sale through the magazine.

A. J. Alessi, the popular dealer from Lombard, Ill., has a number of new items for our collectors this month. Look his ad up and see for yourself.

Wyoming Minerals, of Laramie, Wyo., is offering in this issue some very fine, rich light green Wyoming jade which takes a beautiful polish. It may be obtained in rough masses, polished slabs, etc. Have you an American jade in your collection?

A letter from Jno. B. Litsey, of Dallas, Texas, reads: "No doubt about it, ROCKS AND MINERALS is the magazine! I had 11 bubble xls, including 2 in my personal collection, but listed only 9 in my ad for the January issue and thought I was playing safe. But no such thing. I sold out on the second day's mail, Friday or maybe Thursday. Well, here it is Sunday and checks and money orders are still coming in—to be returned. Too bad! It doesn't matter so much about the money but I hate to have anyone send me specimens and then have to tell them I am not able to fill the order."

Corinne R. Saunders, of Newport News, Va., offers a number of interesting, well preserved Miocene marine fossils from Virginia, in this issue. Many of our readers are fossil collectors so her offerings should appeal to them.

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